THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant(s):	Christiana Soldani
Appl. No.:	10/695,833
Conf. No.:	7187
Filed:	October 30, 2003
Title:	CONFECTIONERY PRODUCT
Art Unit:	1794
Examiner:	A. Corbin
Docket No.:	112701-587

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' REPLY BRIEF

Sir:

I. INTRODUCTION

Appellants submit Appellants' Reply Brief in response to the Examiner's Answer dated August 6, 2008 pursuant to 37 C.F.R. § 41.41(a). Appellants respectfully submit the Examiner's Answer has failed to remedy the deficiencies with respect to the Final Office Action dated January 8, 2008, as noted in Appellants' Appeal Brief filed on June 4, 2008, for at least the reasons set forth below. Accordingly, Appellants respectfully request that the rejections of pending Claims 1, 3, 5-6 and 8-12 be reversed.

II. CLAIM 3 IS SUFFICIENTLY DEFINITE TO SATISFY THE REQUIREMENTS UNDER 35 U.S.C. §112, SECOND PARAGRAPH

Claim 3 is directed, in part, to the method of Claim 1 for the manufacture of a glassy amorphous solid as a confectionery material, the glassy amorphous solid including at least one acidic component and at least one sugar alcohol which is not a monosaccharide sugar alcohol. The subject matter of Claim 3 further narrows the method of Claim 1 by adding the method step of applying a vacuum to an evaporator during the cooking step to assist in removing water to reach a desired final water content of the intermediate material.

The standard for determining whether the definitiveness requirement is met under 35 U.S.C. §112, second paragraph, is whether those skilled in the art would understand what is claimed when the claim is read in light of the specification. With respect to the presently claimed subject matter, Appellants respectfully disagree with the Examiner's assertion that "[a]lthough 'a cooking step' is claimed by appellant in claim 1, there is not a step that is part of appellant's invention, but rather a step claimed for comparison purposes." See, Examiner's Answer, page 4, lines 17-18. Instead, Appellants respectfully submit that the "cooking step" is, in fact, a part of Appellants claimed invention.

As is clearly discussed at pages 10-19 of Appellants' Appeal Brief, the present invention is entirely directed toward "improved" transparency of hard candies, which directly correlates to the higher transmission values of a hard candy product produced wherein the acidic component(s) are added before cooking, as opposed to after cooking. Specifically, Appellants have surprisingly found that acidic component(s) which have conventionally been observed to hydrolyze the sugar alcohol can be added at the start of the process for the manufacture of a hard candy provided that conditions are used in the process under which the acid does not hydrolyze the sugar alcohol. Generally, this involves the use of a vacuum evaporator to reach the desired final moisture content at a temperature which is low enough to avoid hydrolysis of the sugar alcohol. As a result, the problems referred to with typical hard candy manufacturing are alleviated, and the resulting hard candy shows improved transparency.

Appellants' Appeal Brief repeatedly emphasizes the importance of the addition of the acid before cooking and how this feature alone is sufficient to distinguish the presently claimed subject matter from the cited references. Moreover, since Claim 1 recites, in part, "a cooking

step," and Claim 3, which is dependent from Claim 1, recites, in part, "the cooking step," Appellants respectfully submit that there is proper antecedent basis for "the cooking step" in Claim 3. Therefore, in contrast to the Patent Office's assertions, Appellants respectfully submit that it is clear that "a positive cooking step occurs in claim 1" and that the cooking step is, in fact, a "part of appellant's invention." See, Examiner's Answer, page 4, lines 17-22.

As such, Appellants respectfully submit that, because the skilled artisan would understand the metes and bounds of the method for the manufacture of a glassy amorphous solid as a confectionery material, and because there exists proper antecedent basis for "the cooking step," Claim 3 fully complies with 35 U.S.C. §112, second paragraph, and is in condition for allowance.

Accordingly, Appellants respectfully request that the rejection of Claim 3 under 35 U.S.C. §112, second paragraph be withdrawn.

III. THE REJECTION OF CLAIMS 1, 3, 5-6 AND 8-12 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER *RIVIER* SHOULD BE REVERSED BECAUSE THE EXAMINER HAS FAILED TO ESTABLISH A *PRIMA FACIE* CASE OF OBVIOUSNESS

Appellants respectfully request that the Board reverse the obviousness rejection because the Examiner has still failed to establish a prima facie case of obviousness in view of *Rivier*. Specifically, *Rivier* fails to disclose each and every limitation of the present claims. Moreover, there exists no reason why the skilled artisan would have modified *Rivier* to arrive at the presently claimed subject matter.

As supported by the *Affidavit*, and as taught by Appellants' specification, Appellants have surprisingly found that acidic components which have conventionally been found to hydrolyze the sugar alcohol can be added from the start of the process for the manufacture of hard candy provided that conditions are used in the process under which the acid does not hydrolyze the sugar alcohol. Generally, this will involve the use of a vacuum evaporator to reach the desired final moisture content at a temperature which is low enough to avoid hydrolysis of the sugar alcohol. As a result, the problems referred to above are alleviated, and the hard candy shows improved transparency.

In contrast, *Rivier* fails to disclose or suggest forming a liquid starting material comprising water and at least one acidic component, and evaporating water from the liquid starting material under conditions at which the acidic component does not cause significant hydrolysis of the sugar alcohol as required, in part, by Claim 1.

The Examiner maintains that "*Rivier* clearly discloses the presence of an acid before cooking of the liquid composition therein at 130 °C (col. 13, lines 52-55 and col. 14, lines 28-33)" and that "[t]he acid is added as an active ingredient with a polyhydric alcohol in preparing the slurry composition of the casing in *Rivier* (col. 13, lines 45-55. Subsequently, the polyhydric alcohol containing the slurry, which includes the acid according to col. 13, lines 52-55, is dehydrated by cooking." See, Examiner's Answer, page 5, lines 6-12. In contrast, however, Appellants respectfully submit that *Rivier* does not, in fact, "clearly disclose[] the presence of an acid before cooking of the liquid composition therein at 130 °C" for at least the reasons set forth in Appellants' Appeal Brief.

Moreover, Appellants note that while *Rivier* states that "[r]elevant additives such as natural or artificial flavourants, colorants or other active ingredients such as acids or sweeteners can be added in conventional amounts to the composition of the casing," *Rivier* fails to explicitly state at what point during the process those "active ingredients" are added to the composition of casing. See, *Rivier*, col. 13, lines 52-56 (emphasis added). Appellants respectfully submit that the Examiner has misinterpreted the disclosure of *Rivier*.

For example, on one hand, the Examiner uses the lack of explicit disclosure of the timing to simply state that "the polyhydric alcohol containing the slurry, which includes the acid according to col. 13, lines 52-55, is dehydrated by cooking." See, Examiner's Answer, page 5, lines 10-12. On the other hand, however, Appellants respectfully submit that the disclosure of *Rivier* should be interpreted as clearly demonstrating that the "active ingredients" including the acid are added after cooking. For example, column 14 of *Rivier* states the following:

> [g]enerally, the slurry is made of an aqueous mixture of saccarides and/or polyhydric alcohols which is boiled in suitable proportions in a cooker at a temperature of 130-150 °C, preferably under vacuum conditions, to reach a high final solids content of less than 2.5%, preferably of about 1%. Heat resistant functional ingredients may be added at this stage.

See, *Rivier*, col. 14, lines 27-35 (emphasis added). As such, the skilled artisan would appreciate that the above disclosure does not necessarily require the "functional ingredients" to be added before cooking. Further, Example 1 of *Rivier* states the following:

> [a] mixture of 80 Kg of isomalt F, 10 Kg of maltitol syrup and 10Kg of water is cooked under 60% vacuum until reaching a cooking temperature of 155 °C. The resulting cooked mass is flavoured, coloured and acidified and cooled down at 70 °C.

See, *Rivier*, Example 1 (emphasis added). Therefore, it is clear from Example 1 that the "resulting cooked mass" is acidified after cooking. Since "functional ingredients" and "active ingredients" are used synonymously by persons skilled in the art, it must also follow that the disclosure of column 13 of *Rivier*, which the Examiner relies upon to show that acids are added before cooking, should be read as disclosing that the acids are added after cooking as is clearly shown in at least Examples 1 and 2 of *Rivier*.

Accordingly, Appellants respectfully submit that the Examiner continues to misinterpret the disclosure of *Rivier*, which fails to disclose or suggest forming a liquid starting material comprising water and at least one acidic component, and evaporating water from the liquid starting material under conditions at which the acidic component does not cause significant hydrolysis of the sugar alcohol as required, in part, by Claim 1.

Moreover, for at least the reasons set forth in the Appeal Brief, Appellants respectfully submit that the skilled artisan would have no reason to modify *Rivier* to arrive at the presently claimed subject matter because *Rivier* teaches away from the present disclosure by incorporating the acidic "active ingredient" after cooking, as is discussed in detail above.

In sum, Appellants respectfully submit that the *Affidavit*, specification and Examples and Figures in the specification clearly demonstrate that the differences in transmission values for a hard candy prepared according to the present disclosure are generally higher than the transmission values for a hard candy product made by a method wherein the acidic ingredients are added after cooking.

Accordingly, Appellants respectfully request that the rejection of Claims 1, 3, 5-6 and 8-12 under 35 U.S.C. §103 be withdrawn.

IV. THE REJECTION OF CLAIMS 1, 3, 5-6 AND 8-12 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER *ALDRICH* OR *LIEBRAND* IN VIEW OF *RIVIER* SHOULD BE REVERSED BECAUSE THE EXAMINER HAS FAILED TO ESTABLISH A *PRIMA FACIE* CASE OF OBVIOUSNESS

Appellants respectfully submit that, even if combinable, the cited references are deficient with respect to the present claims because the cited references, either alone or in combination, fail to disclose each and every limitation of the present claims. For example, the cited references fail to disclose or suggest evaporating water from a liquid starting material under conditions at which the acidic component does not cause significant hydrolysis of the sugar alcohol to dissolve the acidic component in the liquid and to remove at least part of the water to form an intermediate material, wherein the evaporating is carried out at a temperature that does not exceed 145 °C as is required, in part, by Claim 1. Instead, *Aldrich* teaches dissolving acidic components in a liquid using temperatures of 330-335 °C (about 165 °C to 167 °C), *Liebrand* teaches evaporating water at a temperature of "at least 300 °F" and up to 350 °F (about 149 °C to about 177 °C), and *Rivier* teaches cooking its hard candy product at a temperature of 155 °C, which is clearly higher than the temperature of 145 °C allowed by process of the present disclosure.

The Examiner maintains that "*Rivier* renders it obvious to cook at such a temperature in the process of either *Aldrich* et al or *Liebrand* . . . [and that] *Rivier* also renders it obvious to use isomalt or maltitol in place of the sorbitol in *Aldrich* et al." See, Examiner's Answer, page 5, lines 13-18. However, because *Aldrich*, *Liebrand* and *Rivier* are all deficient with respect to the present claims, as discussed in detail in Appellants' Appeal Brief, Appellants respectfully disagree with the Examiner's assertion that it would have been obvious to combine the cited references to arrive at the present claims. In contrast, Appellants respectfully submit that the skilled artisan seeking to improve the transparency of a hard candy would have no reason to combine the cited references to arrive at the present claims because they fail to disclose or suggest every element of the present claims and actually teach away from the present claims.

Moreover, because the cited references all teach away from the present claims, the skilled artisan would have no reason to combine the cited references to arrive at the present claims. For

example, *Aldrich* teaches the incorporation of an acid to a candy mixture after cooking. Specifically, *Aldrich* teaches that the mix is cooked and then slightly cooled under constant agitation and then held under vacuum for 10 minutes. Subsequently, the hot mix is then transferred to a mixing table after cooking and malic acid and flavor are added with mixing. See, *Aldrich*, col. 2, lines 50-60. Similarly, and as explained in detail above and in Appellants' Appeal Brief, *Rivier* also teaches adding acid after cooking. See, *Rivier*, col. 13, lines 45-55; col. 14, lines 28-33; Examples 1 and 2. Moreover, *Liebrand* explicitly teaches that "the exact point during the cooking process at which the organic acid is introduced is not critical." This is in direct contrast to the present disclosure which clearly demonstrates that the exact point during manufacturing of the hard candy when the acid is added is important (*i.e.*, before cooking). See, *Liebrand*, col. 2, lines 2-6.

For at least the reasons discussed above, Appellants respectfully submit that Claims 1, 3, 5-6 and 8-12 are novel, nonobvious and distinguishable from the cited references.

V. CONCLUSION

For the foregoing reasons, Appellants respectfully submit that the Examiner's Answer does not remedy the deficiencies noted in Appellants' Appeal Brief with respect to the Final Office Action. Therefore, Appellants respectfully request that the Board of Appeals reverse the rejections with respect to Claims 1, 3, 5-6 and 8-12.

No fee is due in connection with this Reply Brief. The Director is authorized to charge any fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112701-587 on the account statement.

Respectfully submitted,

BELL, BOYD & LLOYD LLP

BY _____

Robert M. Barrett
Reg. No. 30,142
Customer No. 29157
Phone No. 312-807-4204

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